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The International Year of Chemistry and South Africa

2011 promises an exciting programme to raise the profile of chemistry in the country

With their typical humility, chemists will tell you that there is nothing in the world that does not involve chemistry. All known matter (gases, liquids and solids) is composed of the chemical elements or of compounds made from these elements. Humankind's understanding of the material nature of our world is grounded in our knowledge of chemistry, and all living processes are controlled by chemical reactions.

The International Union of Pure and Applied Chemistry (IUPAC) and UNESCO strongly believe that it is time to celebrate the achievements of chemistry and its contributions to the well-being of humankind. Therefore, in December 2008 the UN General Assembly declared 2011 as the International Year of Chemistry (IYC) with the inspiring global theme of 'Chemistry – our life, our future'. Chemistry, appropriately called the central science, is both a deeply philosophical enquiry and an applied scientific endeavour, and the primary objective of the IYC is to increase the public's appreciation and understanding of chemistry in meeting world needs.

In order to generate interest in the creative future of chemistry, we need to encourage the interest of young people in the subject. To ensure that first-rate minds continue to be attracted to and challenged by chemistry, its role in managing natural resources sustainably should be emphasised. Humanity's understanding of the world is grounded in our developing knowledge of chemistry. Chemists will inevitably play a role in addressing challenges in modern society, for example in helping to address the United Nations millennium goals. A deep understanding of chemistry is essential for developing molecular medicine, for creating new materials and sustainable sources of food, water and energy.

This year we will celebrate, in particular, the role of women in chemistry and major historical events in chemistry. With regard to the latter objective, 2011 is the 100th anniversary of the award of the Nobel Prize in Chemistry to Marie Curie, recognising her discovery of the elements radium and polonium. Curie's achievements continue to inspire students – especially women – to pursue careers in chemistry. This year is also significant because it marks the 100th anniversary of the founding of the International Association of Chemical Sciences. The organisation evolved eight years later to become IUPAC, the oldest of the global scientific unions.

South Africa is a resource rich country, and it is not surprising that chemistry plays a dominant role in the success of several of our main industrial sectors, such as mining, petrochemical, energy, polymer, food, water, pharmaceutical, fertiliser and agrochemical, cement and construction materials, and in addition is the core science in the analytical service laboratories. Therefore, chemistry remains at the core of South Africa's economy.

Under the theme 'Chemistry – our life, our future', the South African Chemical Institute, led by Professor Ivan Green, has committed itself to promoting the IYC by requesting each of its divisions and its four regional sections (Western Cape, Eastern Cape, Gauteng and KwaZulu-Natal) to hold one-day symposia on themes of general interest to celebrate the contribution that chemistry has made to the economic growth and development of our country. The institute believes that these activities will alert young chemists to the sterling contributions that the chemical and allied industries have made towards the improvement of the quality of life of all people, and will inspire more students to pursue a career in chemistry.

The institute further took the initiative of holding its 40th National Convention from 16–21 January 2011 at the University of the Witwatersrand. South African chemists are rightly proud of this major meeting as it was the very first chemistry event in Africa in 2011, as well as internationally, to focus on the IYC. Several foreign luminaries participated in the event, including Prof David Phillips (President of the Royal Society of Chemistry), Prof Nicole Moreau (President of IUPAC), Dr Nancy Jackson (President of the American Chemical Society) and Prof T. Engida (President of the Federation of African Chemical Societies). The scientific leadership focused on encouraging interactive exchanges of staff and students to broaden and improve the research profiles of South African chemists.

In addition, the IYC will be celebrated through a number of activities throughout the year: participation at science festivals; schools doing the Global Water Experiment as promoted by IUPAC; talks by prominent chemists; invited talks on chemistry at various symposia e.g. chemistry in food and chemistry in astronomy; promotions at science centres; and publicity through the news media (primarily radio and television).

To celebrate the IYC, the *South African Journal of Science* has invited a number of South African chemists to submit papers for publication during 2011 to the journal, five of which appear in this issue. We trust that this initiative will lead to an ongoing involvement of the chemical fraternity with the journal.

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